

PROCUREMENT OF INSPECTION, MEASURING AND TEST EQUIPMENT (IM&TE)

LMS-CP-0510

Revision: D

Objectives:

-to ensure all new inspection, measuring, and test equipment (IM&TE) (including safety related instruments) that requires calibration has an associated valid "Designated User" and "Branch Metrology Representative," is correctly classified for calibration requirements, is calibrated with acceptable records, and is properly labeled and entered into the Langley Metrology Information System (MIS) database prior to use.

Approval original signed on file 6/19/08

Associate Director Date

General Information

The following records are generated by this procedure and should be maintained in accordance with LPR 1440.7:

Calibration Records in LaRC Metrology Information System (MIS)

Note 1

Equipment used to perform measurements associated with the following functions must be classified by the "Designated User" as Category 1 or Category 2 (see LAPD 8730.1 for responsibilities of the Designated User and LMS-CP-0506 for category definitions), be capable of satisfying application requirements, and have ANSI/NCSL Z540.1-1994 compliant calibration records and labels prior to use (see NPd 8730.1):

- Acceptance testing (determining that a part, component, or system meets specifications)
- Inspection, maintenance, or calibration
- Flight hardware qualifications
- Measurement of processes where test equipment accuracy is essential for the safety of personnel or the public. Safety related measurement equipment must be Category 1 unless Category 2 is justified in MIS notes by Branch Metrology Representative MetRep).
- Telecommunications, transmission, and test equipment where exact signal interfaces and circuit confirmations are essential to mission success
- Development, testing, and special applications where the specifications, end products, or data are accuracy sensitive, including instruments used in hazardous and critical applications

Industrial controls are not part of the calibration system and are not categorized in EMIT unless specifically requested by a Designated User. Industrial controls are maintained in the MAXIMO database and are normally used to establish approximate conditions that are then accurately monitored as needed by Category 1 or Category 2 research IM&TE.

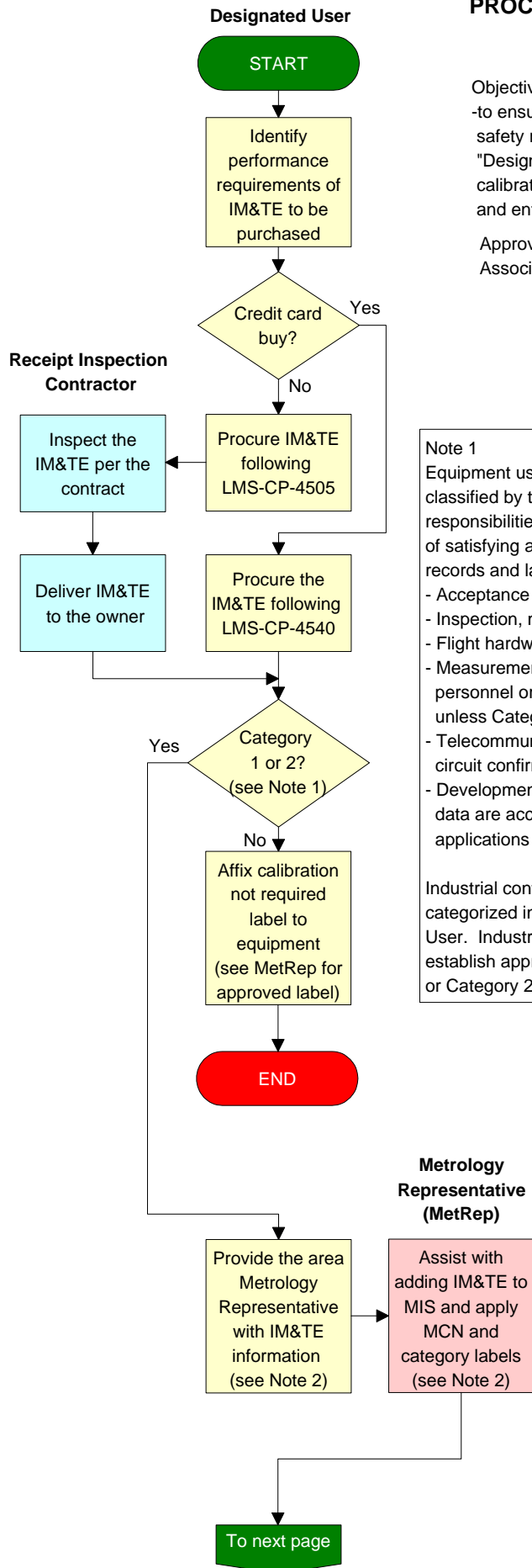
Note 2

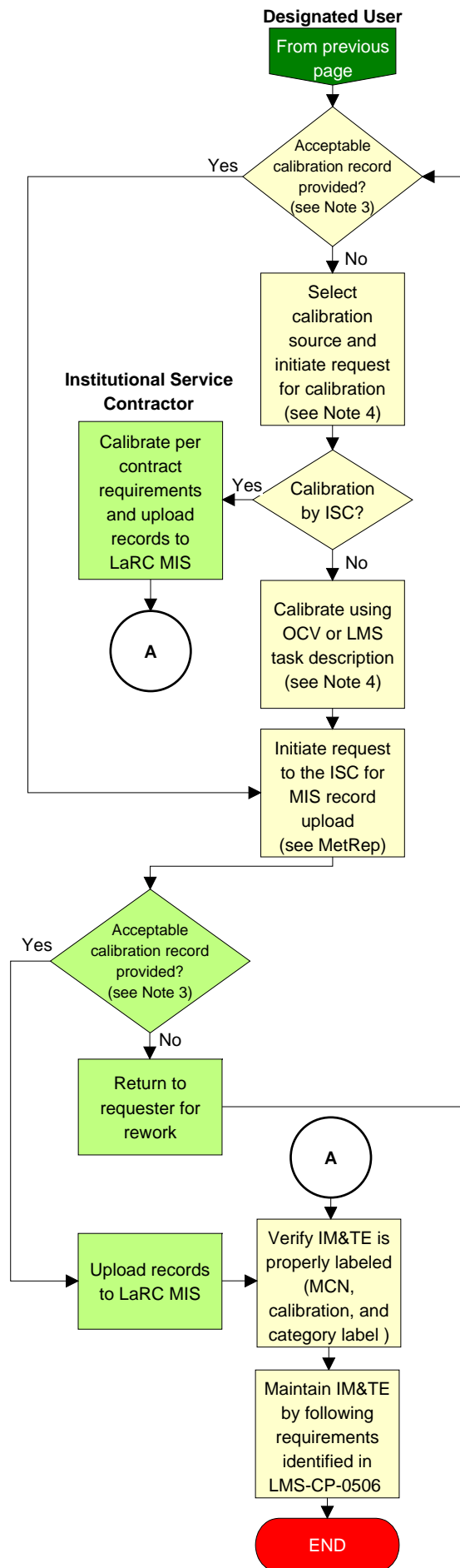
MetReps have password accounts that enable them to make additions and changes to the LaRC MIS; MetReps must also coordinate activities with Designated User to assure MCN, calibration and category labels are affixed to new IM&TE prior to use.

New IM&TE information required for MIS:

- | | |
|-------------------------------|--|
| - MCN (see MetRep for labels) | - MetRep name |
| - Manufacturer | - Designated User name |
| - Model number | - Category 1 or 2; (see MetRep for labels) |
| - Description | - Building number |
| - Serial Number | - Room number |

New IM&TE shall be segregated from calibrated equipment and stored to prevent loss or damage in a controlled area to prevent use until acceptable records are entered into the MIS and appropriate labels are affixed. If needed for indication only measurements prior to calibration, it must be labeled with a "Calibration Not Required - Limited to Non-Critical, Non-Accurance Sensitive or Non-Hazardous Measurements" sticker. This label, when used, must remain in place until removed when acceptable calibration records have been uploaded to the LaRC MIS and calibration status labels have been affixed. Authorized "Calibration Not Required" labels are available from the branch Metrology Representative.





Note 3

Review the calibration record for compliance with ANSI/NCSL Z540.1-1994 (reference NPD 8730.1) and Manufacturer's specifications or customer requirements.

Note 4

Calibration may be performed by the Institutional Services Contractor (ISC), by an Outside Calibration Vendor (OCV) or the Organizational Unit (OU) with an approved LMS task description. LaRC has two ISCs:

- Research Operations, Maintenance, and Engineering (ROME) contract for routine and special metrology calibrations for the majority of LaRC equipment
- Force Measurement Support Services (FMSS) contract for the calibration or service of aircraft scales, analytical balances, cable tensiometers, crane scales, dynamometers, force gauges, hydraulic presses, load cells and digital indicators, platform scales, swage terminal testers, tensile testers, torque wrenches, torque testers, torque multiplier, and weights

To have instruments calibrated by ROME:

Contact the Branch MetRep for information on how to use the Certified Data Acquisition (CERDAAC) electronic shipper form or call 873-1978 for help. You may also call 864-7663 or access the ROME Web Site at <http://ROME.larc.nasa.gov>. A funded ROME Tracking Number (RTN) must be provided when submitting a request; contact the Organizational MetRep to obtain information about RTNs. If performance requirements other than manufacturers specification are required, customer supplied requirements must be provided to the calibration laboratory. See EMIT Web Site for instructions on how to request on-site calibrations.

To have force related instruments calibrated by FMSS:

Contact the Branch MetRep for information on how to use the Certified Data Acquisition (CERDAAC) electronic shipper form or call 873-1978 for help. You may also call 864-7663 or access the ROME Web Site at <http://ROME.larc.nasa.gov> and attach LF 145. An organizational code must be provided when submitting request (RTNs are not required for FMSS calibrations). For quick turnaround or an urgent request, call 873-8235 or 873-1212 and attach LF 145. If performance requirements other than manufacturers specification are required, customer supplied requirements must be provided to the calibration laboratory.

To have instruments calibrated by an OCV or non-ISC contractor:

Instruments must be shipped (using LF 52, Shipping/Transfer Document) or calibrated on-site by a vendor that is ANSI/NCSL Z540.1-1994 compliant as per NPD 8730.1 (may additionally be compliant to ANSI/ISO/ 17025:2000 or ANSI/NCSL Z540.3-2006 when appropriate). It is the users' responsibility to request "as found" and as left data for Category 1 items (and Category 2 items, if required). OCV calibration records must be uploaded to CERDAAC/EMIT. MetReps can provide instructions on how to initiate the record upload by creating a no cost paperwork only shipper. If performance requirements other than manufacturers specification are required, customer supplied requirements must be provided to the calibration laboratory.

Calibrations by the OU must comply with LMS Task Description requirements specified in LMS-CP-0506.